

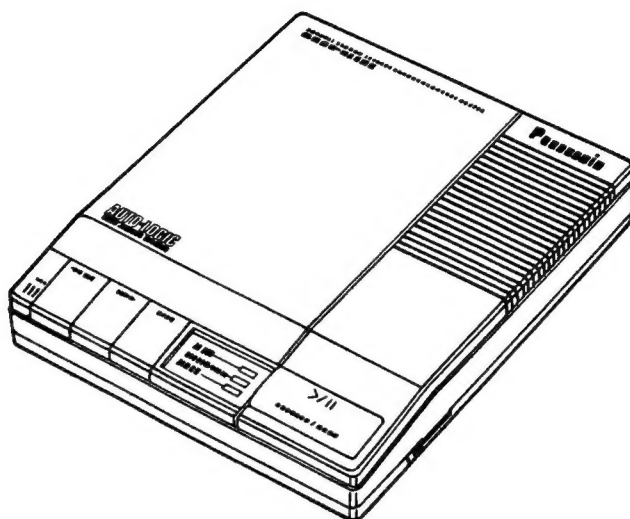
# Service Manual

AUTO-LOGIC™

**EASA-PHONE®**

AUTOMATIC TELEPHONE  
ANSWERING SYSTEM

Telephone Equipment  
**KX-T1423**



## ■ SPECIFICATIONS

Power Source:	AC adaptor (13 V, DC)/KX-A07L or KX-A11
Outgoing Message (OGM):	30-second endless loop cassette (Variable, up to 30 seconds)
Incoming Message (ICM):	C-60 regular cassette: selectable recording times (1 MIN/VOX)
Tape Deck:	Logic control dual cassette system
Ring Control:	2/4/Auto
Power Output:	350 mW max. across the monitor speaker
Monitor Speaker:	2" PM dynamic (8 ohm)
Microphone:	Condenser microphone
Connection:	2 built-in modular jacks, DC-IN jack
Ringer Equivalence:	0.4 B
Dimensions:	170 (W)×51 (H)×212 (D) mm (6 <sup>1</sup> / <sub>16</sub> "×2"×8 <sup>1</sup> / <sub>32</sub> ")
Weight:	980 g (2 lb.)

Design and specifications are subject to change without notice.

# Panasonic

Matsushita Services Company  
50 Meadowland Parkway,  
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.  
91-238 Kauhū St. Ewa Beach  
P.O. Box 774  
Honolulu, Hawaii 96808-0774

Matsushita Electric  
of Canada Limited  
5770 Ambler Drive, Mississauga,  
Ontario, L4W 2T3

Panasonic Sales Company,  
Division of Matsushita Electric  
of Puerto Rico, Inc.  
Ave. 65 De Infantería, KM 9.7  
Victoria Industrial Park  
Carolina, Puerto Rico 00630

When you mention the serial number, write down the 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

## LOCATION OF CONTROLS

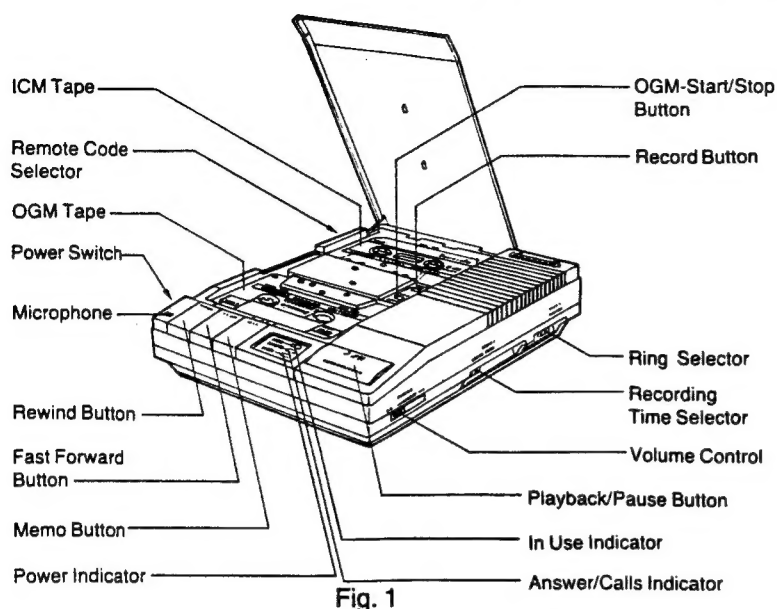


Fig. 1

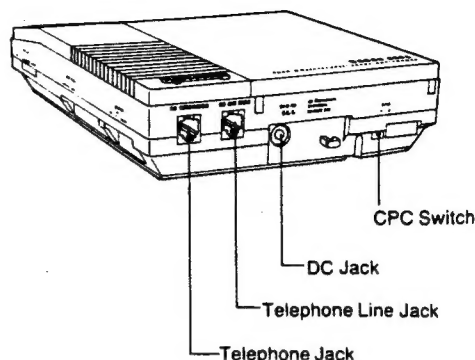


Fig. 2

## OPERATIONS

### How to Record Outgoing Message (OGM)

#### Recording

- 1 while keeping it pushed, push the until a beep sound is heard.

- 2 Speak clearly and loudly to the .

- 3 When you finished, .

#### Confirming

- 4 .

- Adjust the volume control to confirm.
- Wait until the In Use indicator goes out.

#### Re-recording

If you want to record again, repeat from step the 1.

### Setting Prior to Leaving

#### One Touch Operation:

The unit will automatically set to the Answer mode by simply pushing the Power Switch. When the telephone rings, the unit will play back the OGM, then it will record the Caller's messages on the ICM tape.

#### To Listen to Messages

- 1 .

- 2 ICM tape will automatically rewind and begin to play back.

- At the end of all the messages 3 beeps will be heard.
- 7 seconds after the 3 beeps are heard the unit will reset back to the Answer mode.
- Future incoming messages will be recorded after the last message. To record from the beginning of the tape, push the REW button.

## Monitoring the Incoming Calls

While an incoming message is being recorded;

### 1 Adjust the Volume Control.

To talk to the caller directly during recording incoming message, lift the handset to talk.  
 •The tape will stop recording.

## Message Memo

To record confidential message, any time at home, on the ICM tape to be heard by someone using the unit.

### 1 until a beep sound is heard.





### 2 Speak into the .

### 3 When finished, .

•The unit will be ready to answer the next call.

## Erasing the Recorded Message

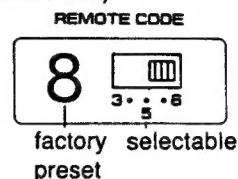
To erase the incoming messages:

 , while keeping it pushed, push the  or  until a beep sound is heard.

## How to operate from Remote Phone

### How to Set Remote Code on the remote code selector

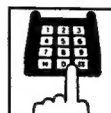
Example: 86  
 (left side of the unit)



•Code No. is two digits.

## Message Playback

1



DIAL THE PHONE NO. TO WHICH THE UNIT IS CONNECTED



PUSH CODE NO. (2 digits) DURING OGM


•A beep will sound then another beeps will sound to tell you the number of recorded messages, up to 8 times.

•3 beeps will be heard after the last message.

### 2 Hang up.

•Future incoming messages will be recorded after the last message.

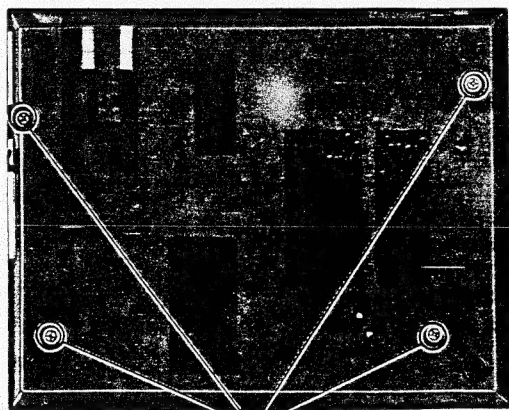
## Skip Forward and Back Space

■ To skip forward the tape; 

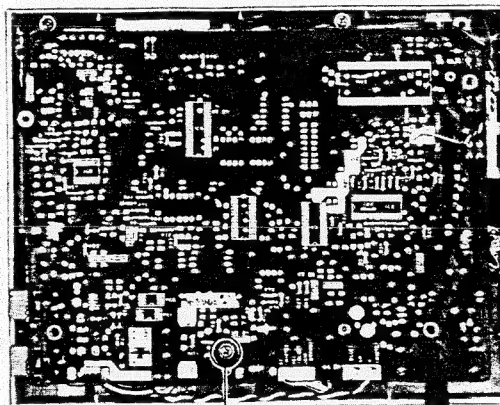
■ To rewind the tape; 

■ The tape will skip forward or rewind for approximately 15 seconds of playback time.

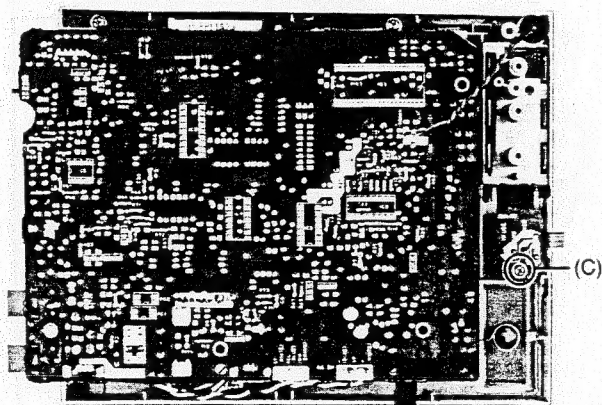
# DISASSEMBLY INSTRUCTIONS



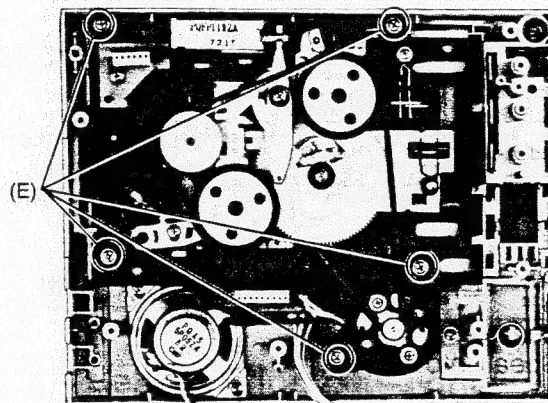
(A)  
Fig. 3



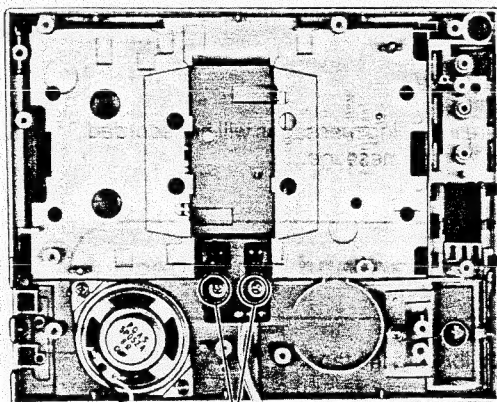
(B)  
Fig. 4



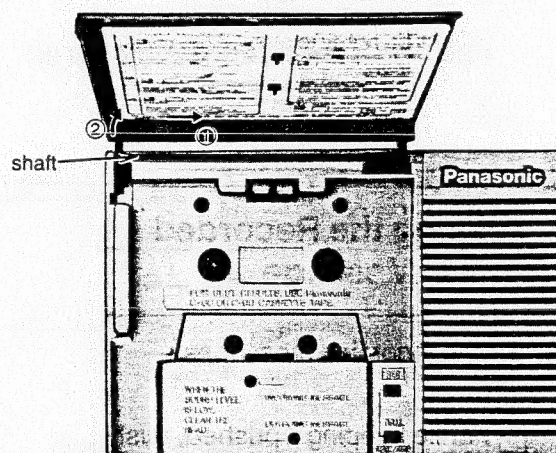
(C)  
Fig. 5



(E)  
Fig. 6



(D)  
Fig. 7



shaft  
Fig. 8

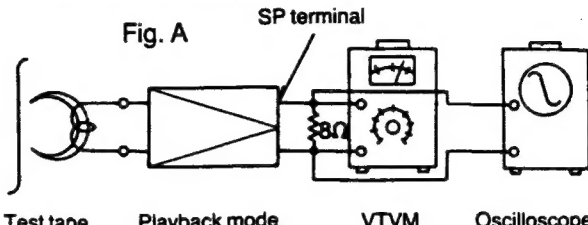
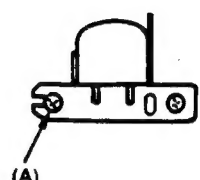
Procedure	To remove—	Remove—	Shown in Fig.—
1	Lower Cabinet	Screws (3×16) ..... (A)×4	3
2	Printed Circuit Board	Screw (3×10) ..... (B)×1	4
3		Screw (3×10) ..... (C)×1	5
4		Screws (3×8) ..... (D)×2	7
5	Cassette Deck	Screws (3×10) ..... (E)×5	6
6	Cassette Lid	.	8

4 \*When removing the cassette lid, remove the shaft as shown in Fig. 8



# MEASUREMENT AND ADJUSTMENT METHOD

- Notes:**
1. Make sure the heads are clean.
  2. Make sure the capstan and pressure roller are clean.
  3. Room temperature for measuring and adjusting:  $20 \pm 5^{\circ}\text{C}$  ( $68 \pm 9^{\circ}\text{F}$ )
  4. Test equipments are not treated as replacement parts.

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Head azimuth adjustment	<p><b>A. Record/playback head for incoming message cassette</b></p> <ol style="list-style-type: none"> <li>1. Playback test tape (QZZCWAT 3 kHz)</li> <li>2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown below.)</li> </ol>  <p>Fig. A</p> <p>Test tape    Playback mode    SP terminal    VTVM    Oscilloscope</p> <p><b>B. Record/Playback head for outgoing message cassette</b></p> <ol style="list-style-type: none"> <li>1. Playback test tape (PQJN17Z 3 kHz)</li> <li>2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown in fig. A)</li> </ol>  <p>(A)</p> <p>Fig. B</p>	<p>• Record/playback head for incoming message and outgoing message.</p>

## ACCESSORIES AND PACKING MATERIALS

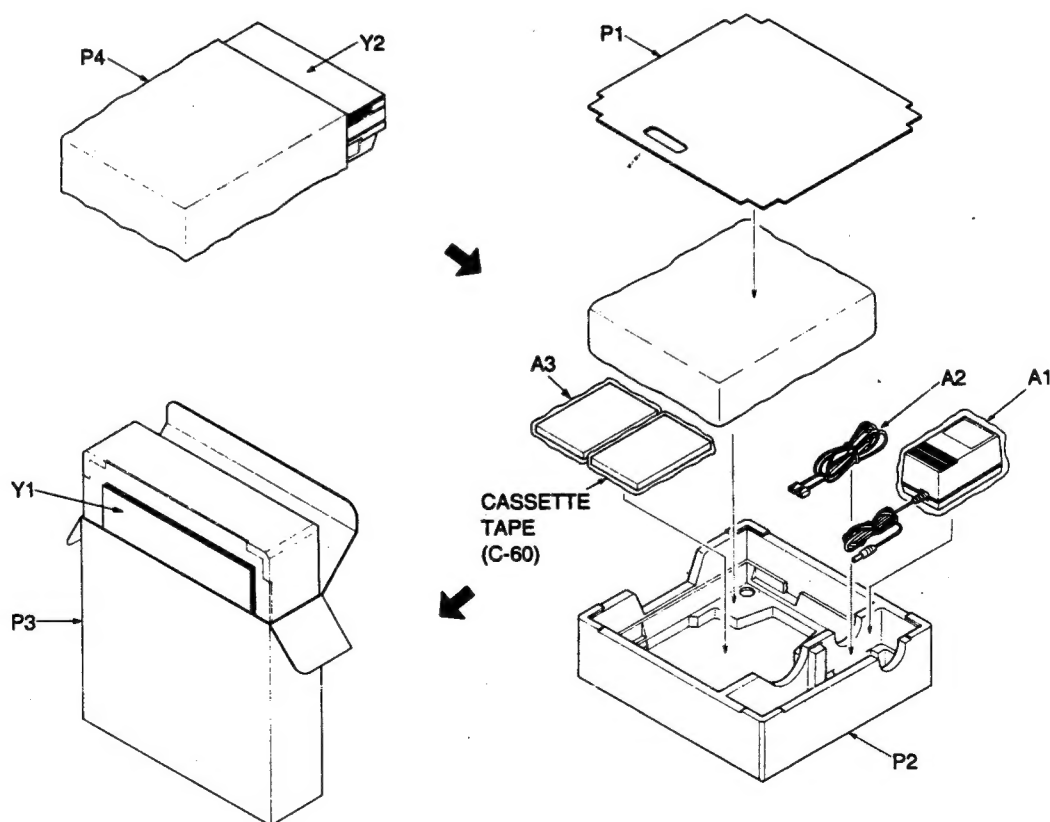
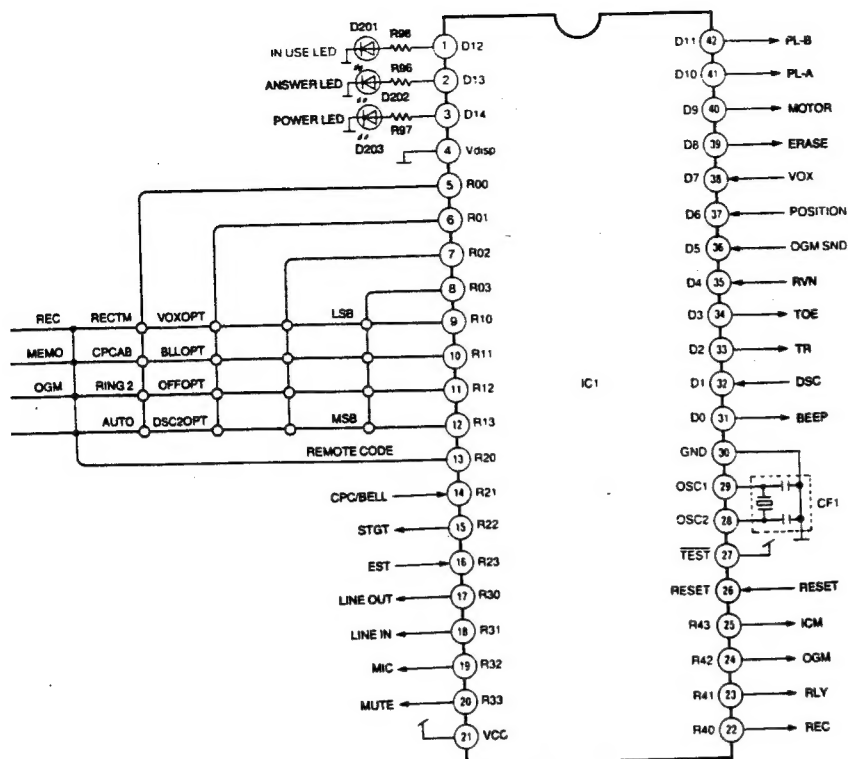


Fig. 9

## CPU DATA



Part No: PQVI4140SA11  
 Power Supply:  $5 \pm 0.5$  V  
 Program ROM:  $4096 \times 10$  bit  
 Inside Data RAM:  $160 \times 4$  bit

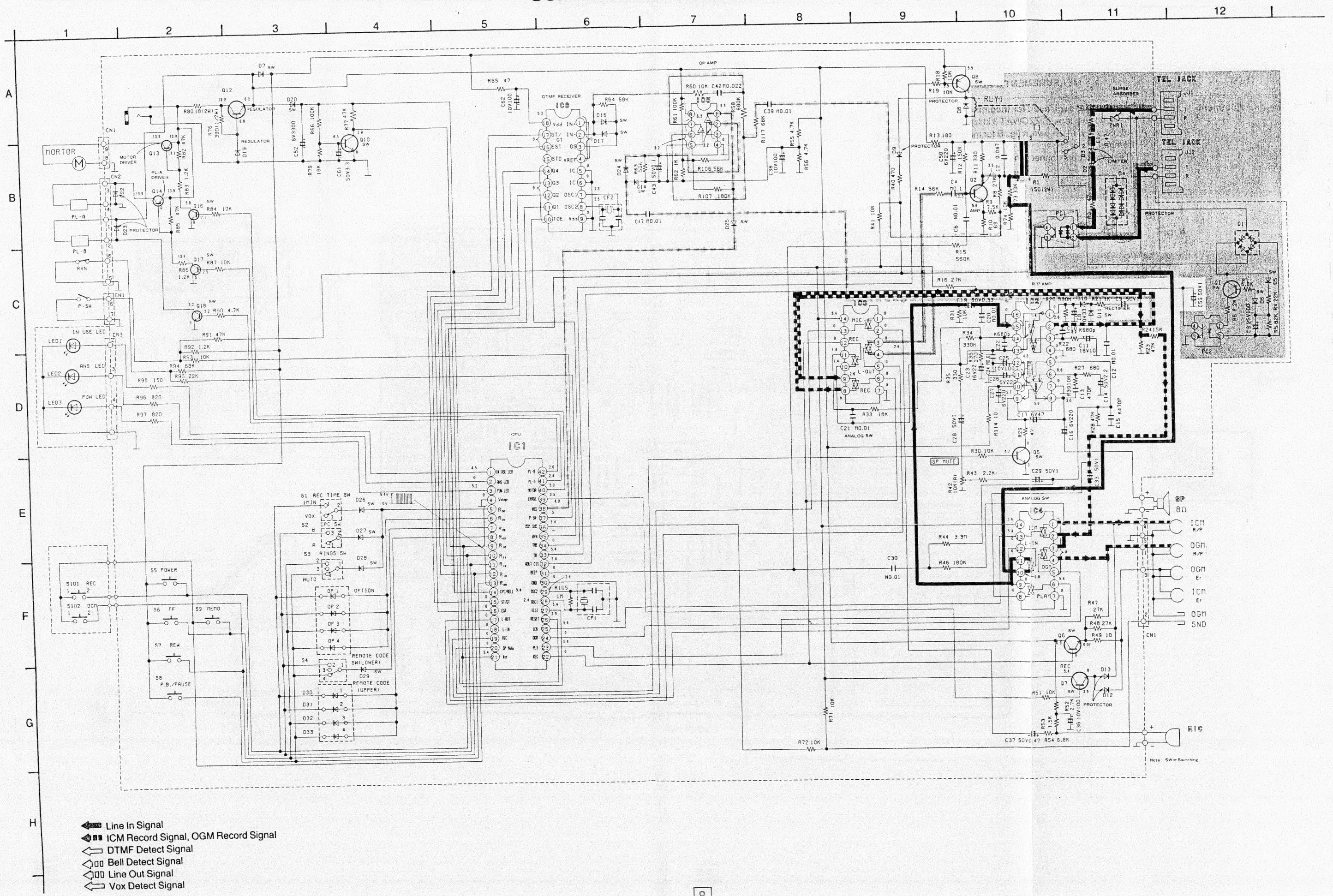
## OPTION:

SWITCH	OPEN	SHORT
REC TIME	VOX	1 MIN
CPC AB	A 7	B 350
AUTO	—	AUTO
RING 2	4	2
VOX OPT	6S	4S

No.	Port	Function	High	Low	No.	Port	Function	High	Low
1	D12	IN USE LED	ON	OFF	22	R40	REC	ON	OFF
2	D13	ANSWER LED			23	R41	RLY		
3	D14	POWER LED			24	R42	OGM		
4	Vdisp	Vdisp		Ground	25	R43	ICM		
5	R00	Strobe	Active		26	RESET	Reset	ON	
6	R01	Strobe			27	TEST	Test	Vcc	
7	R02	Strobe			28	OSC1	OSC1		
8	R03	Strobe			29	OSC2	OSC2		
9	R10	Key Option	ON	OFF	30	GND	Ground		Ground
10	R11	Input			31	D0	BEEP		
11	R12	Input			32	D1	DSC		
12	R13	Input			33	D2	TR		Active
13	R20	Strobe	Active		34	D3	TOE	DTMF	
14	R21	CPC/BELL	CPC	Bell	35	D4	RVN		
15	R22	STGT	Input		36	D5	OGM SND SW		
16	R23	EST	Disable	Enable	37	D6	Position SW	Neutral	
17	R30	LINE OUT			38	D7	VOX	Disable	Enable
18	R31	LINE IN	ON	OFF	39	D8	ERASE	Active	
19	R32	MIC			40	D9	MOTOR		
20	R33	SP MUTE			41	DA	Plunger-A		
21	Vcc	Vcc	Vcc		42	DB	Plunger-B		

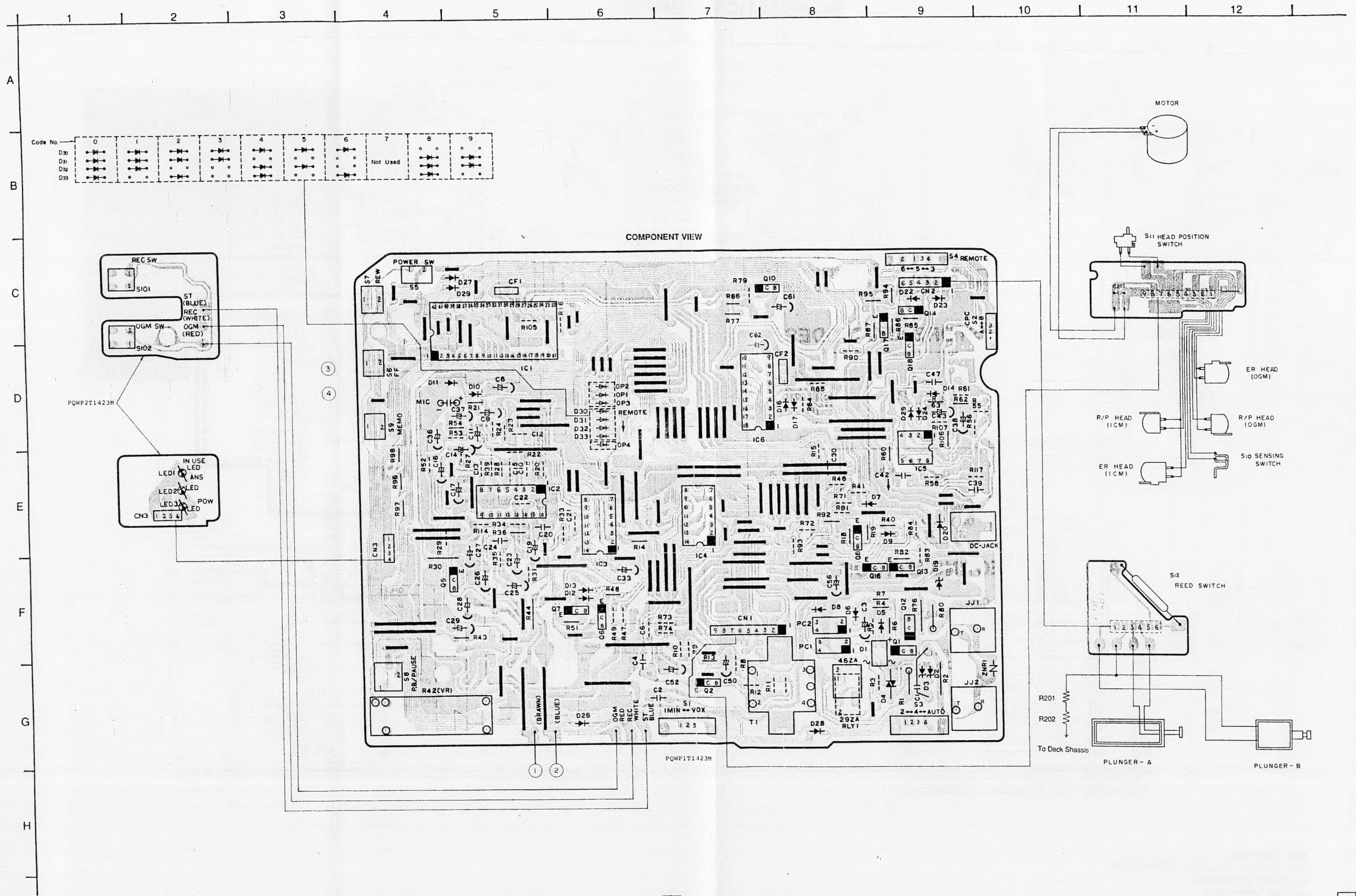


SCHEMATIC DIAGRAM



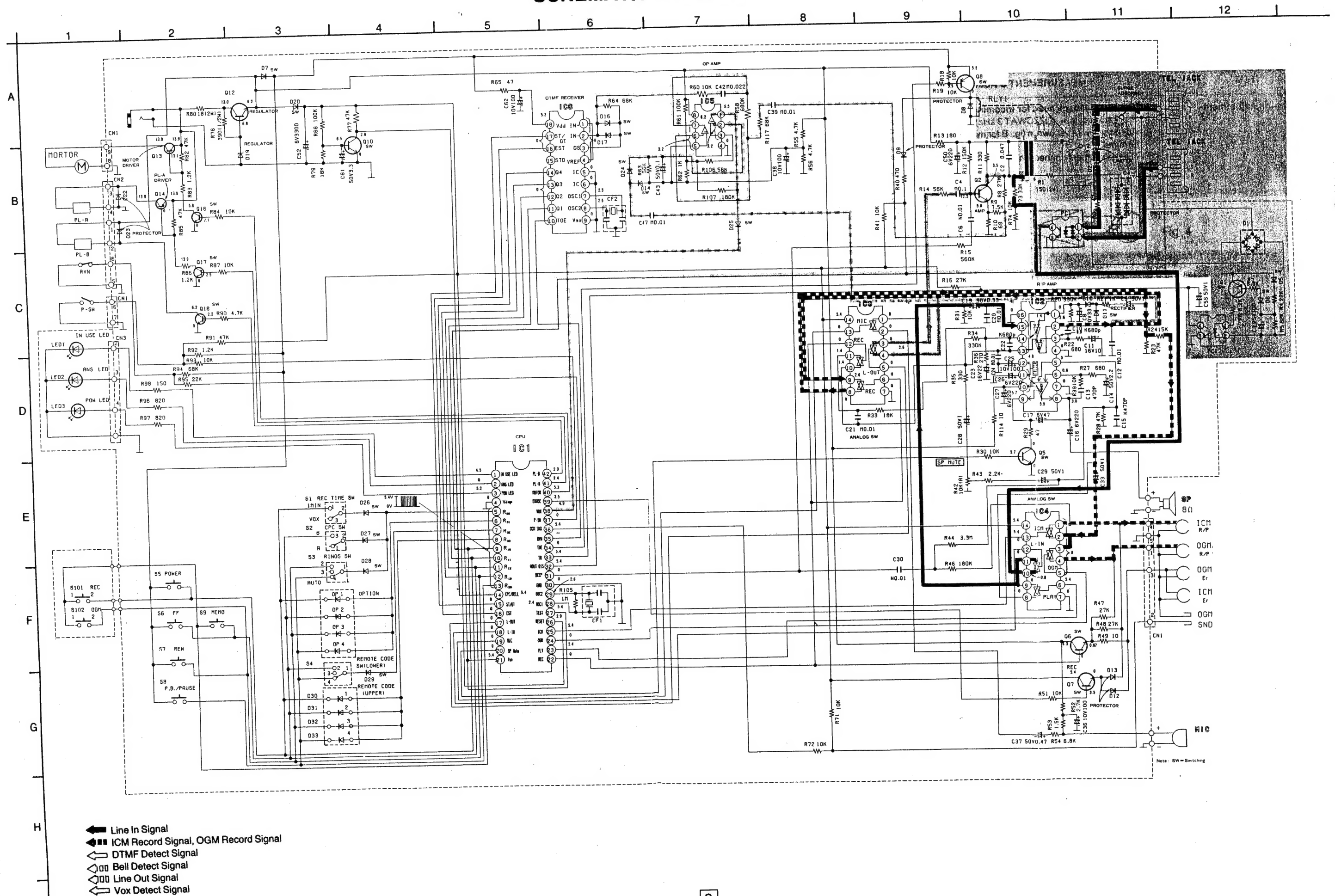


# CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



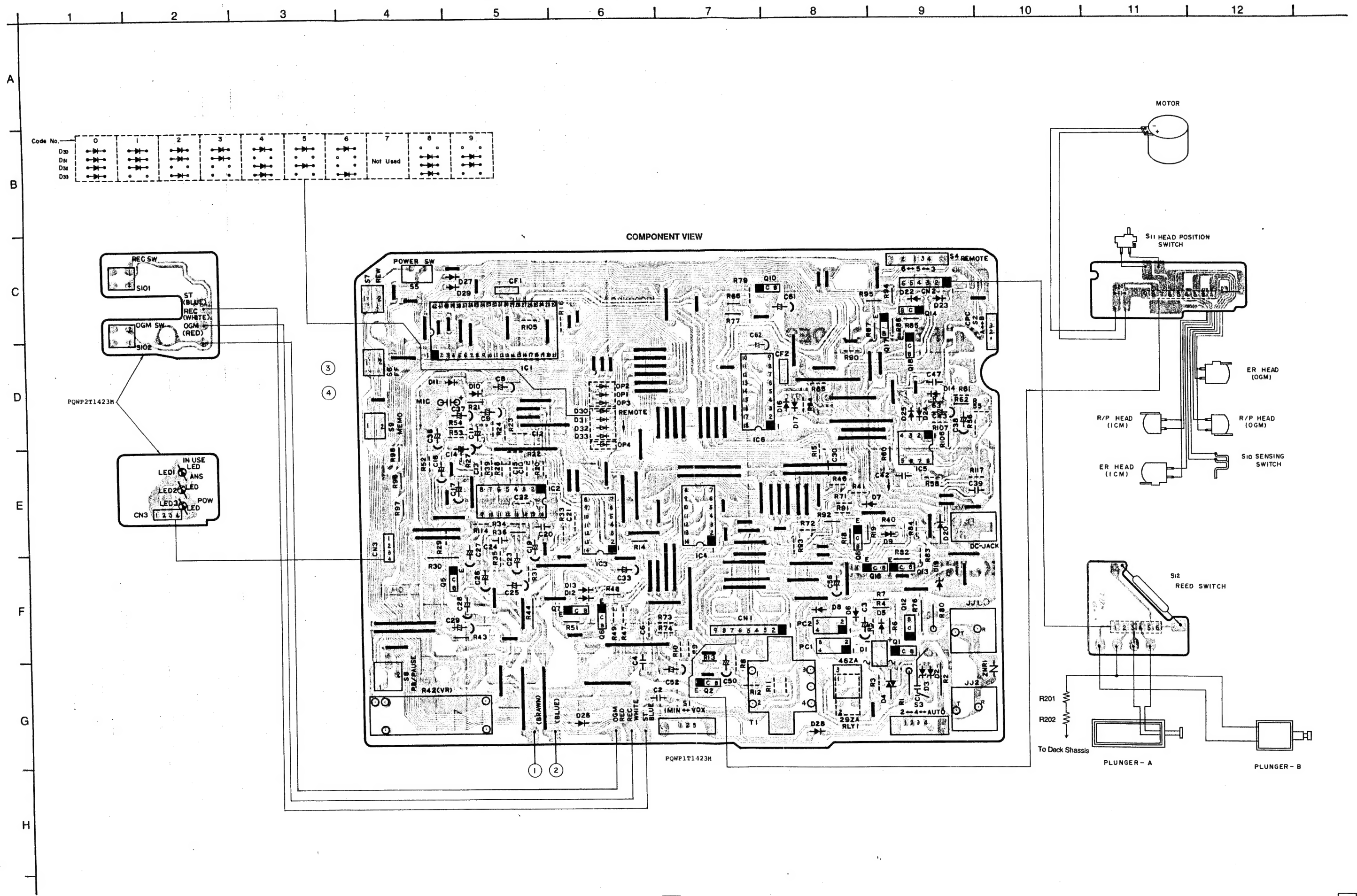


### SCHEMATIC DIAGRAM





# CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



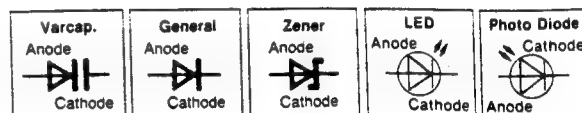
## ■ FOR SCHEMATIC DIAGRAM

### Notes:

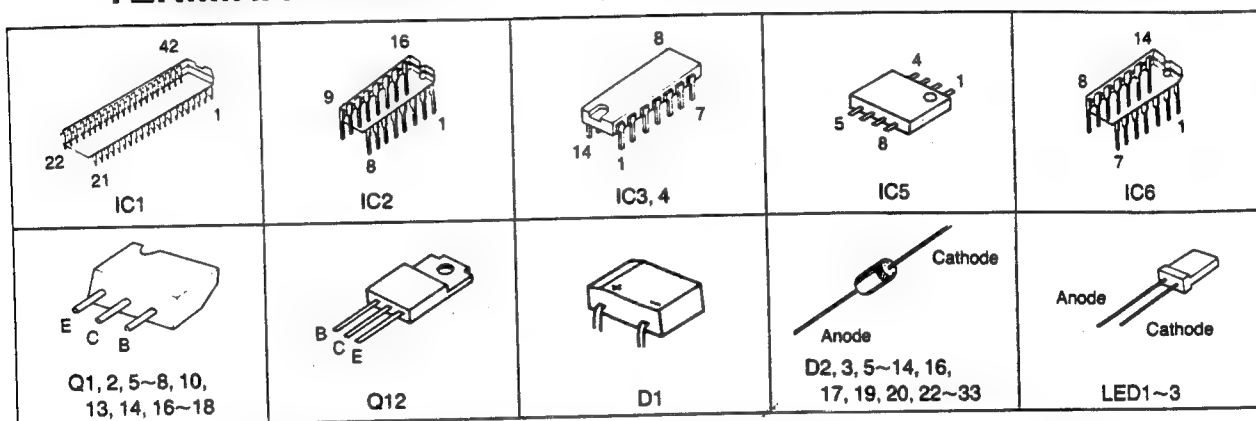
1. S1: Recording time selector switch in "VOX" position.
2. S2: CPC switch in "A" position.
3. S3: Ring selector switch in "AUTO" position.
4. S4: Remote code selector switch in "ALL ZERO" position.
5. S5: Power switch.
6. S6: Fast forward switch.
7. S7: Rewind switch.
8. S8: Playback/Pause switch.
9. S9: Message memo switch.
10. S10: Sensing switch.
11. S11: Head position switch.
12. S12: Reed switch.
13. S101: Record switch.
14. S102: OGM-start/stop switch
15. DC voltage measurements are taken with electronic voltmeter from negative line.
16. This schematic diagram may be modified at any time with the development of new technology.

### Important safety notice

The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.



## TERMINAL GUIDE OF ICs, TRANSISTORS AND DIODES



## EXTENSION CABLE CONNECTING METHOD

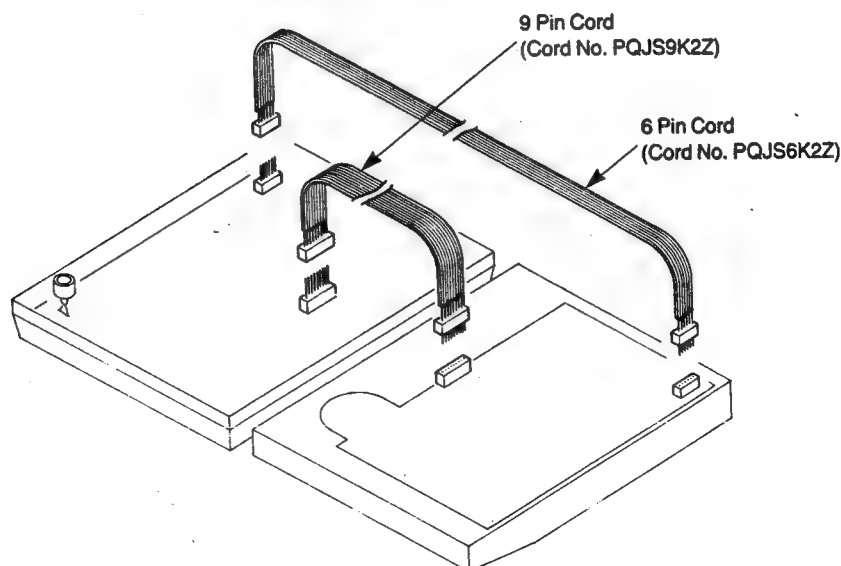
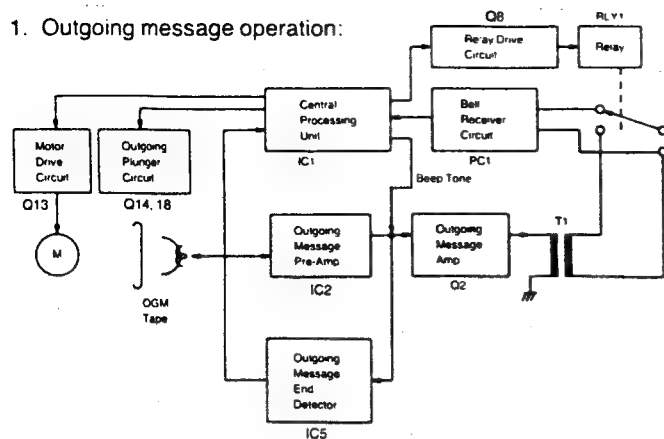


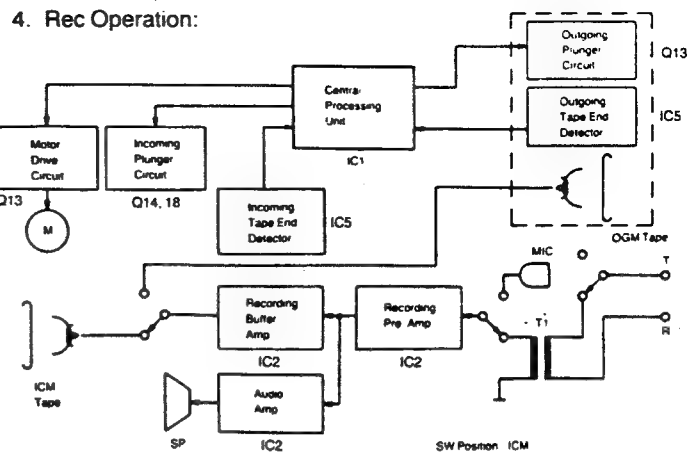
Fig. 10

# BLOCK DIAGRAM

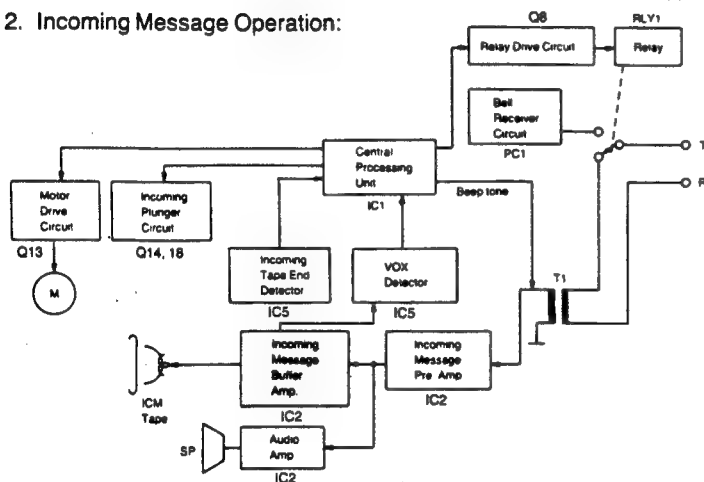
1. Outgoing message operation:



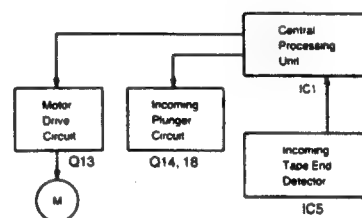
4. Rec Operation:



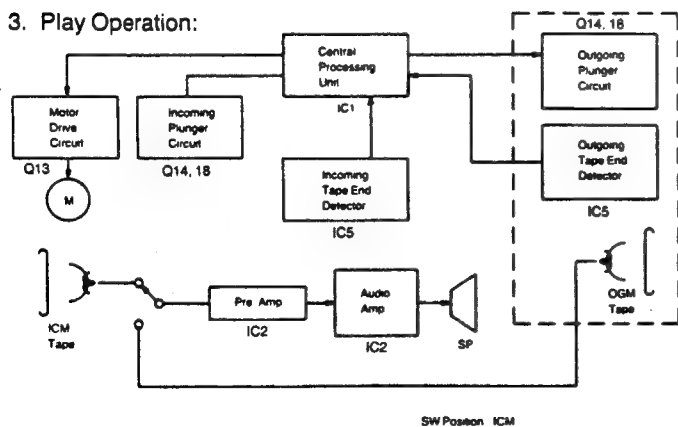
2. Incoming Message Operation:



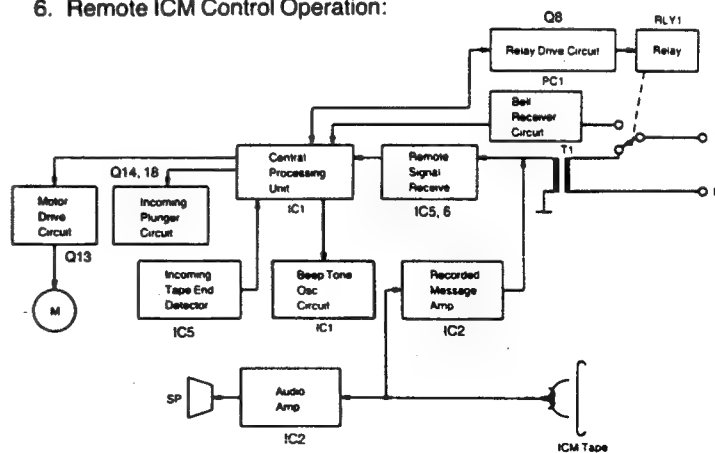
5. Cue & Review Operation:



3. Play Operation:



6. Remote ICM Control Operation:



# IC BLOCK DIAGRAM

IC6 PQVITC35300P

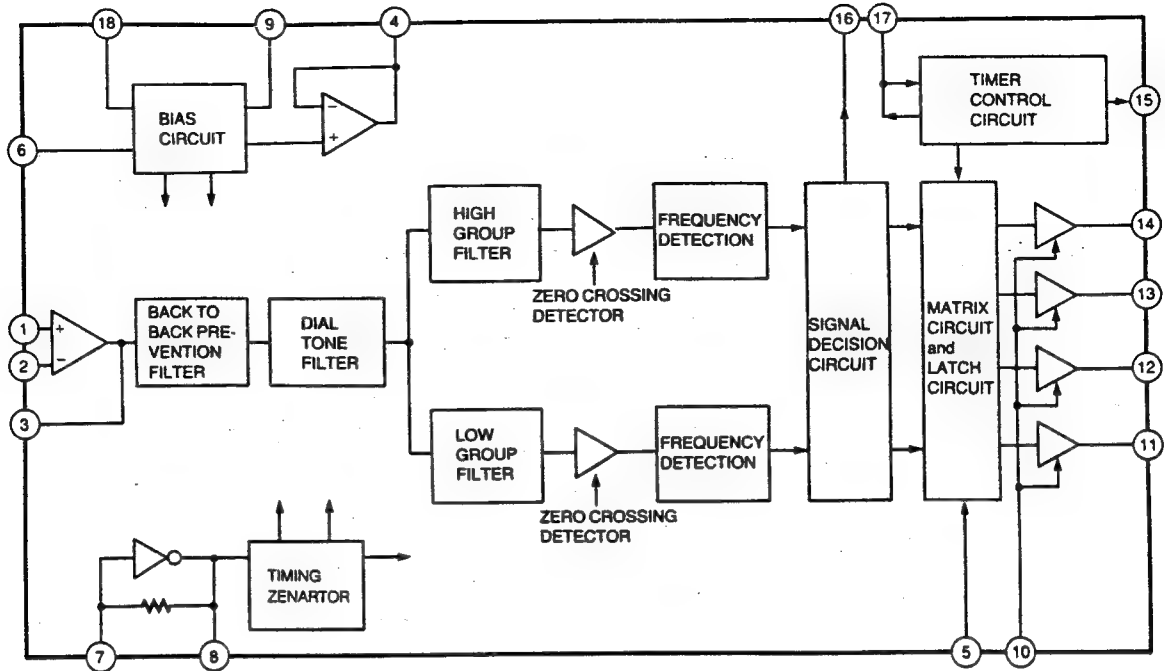
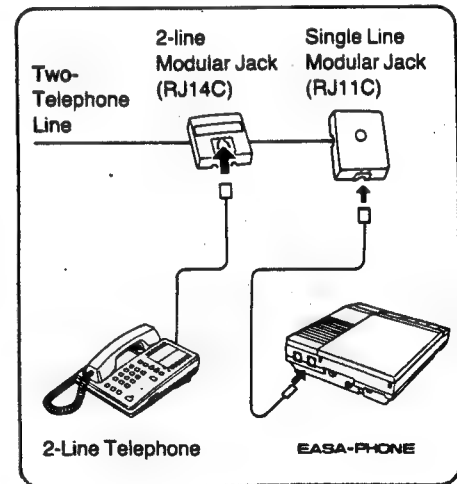
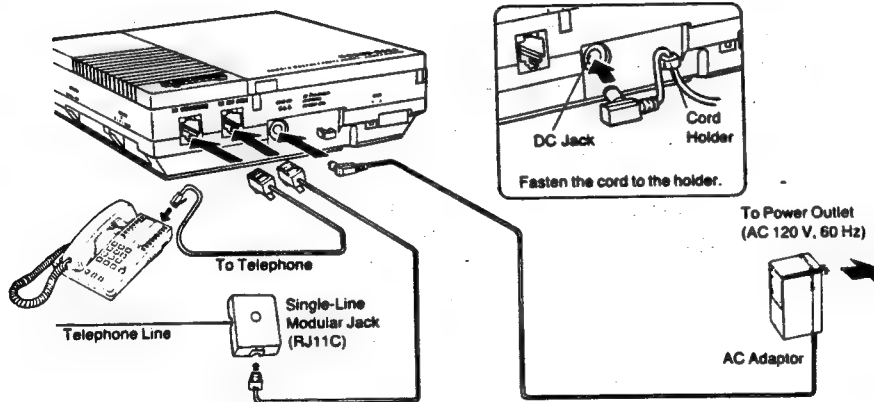


Fig. 11

## CONNECTION

• If your telephone jack has two separate telephone lines wired to it (USOC RJ14C Connection), as used with a two-line phone, request the telephone company to install a USOC RJ11C connection to one of the two lines.



# CABINET AND ELECTRICAL PARTS LOCATION

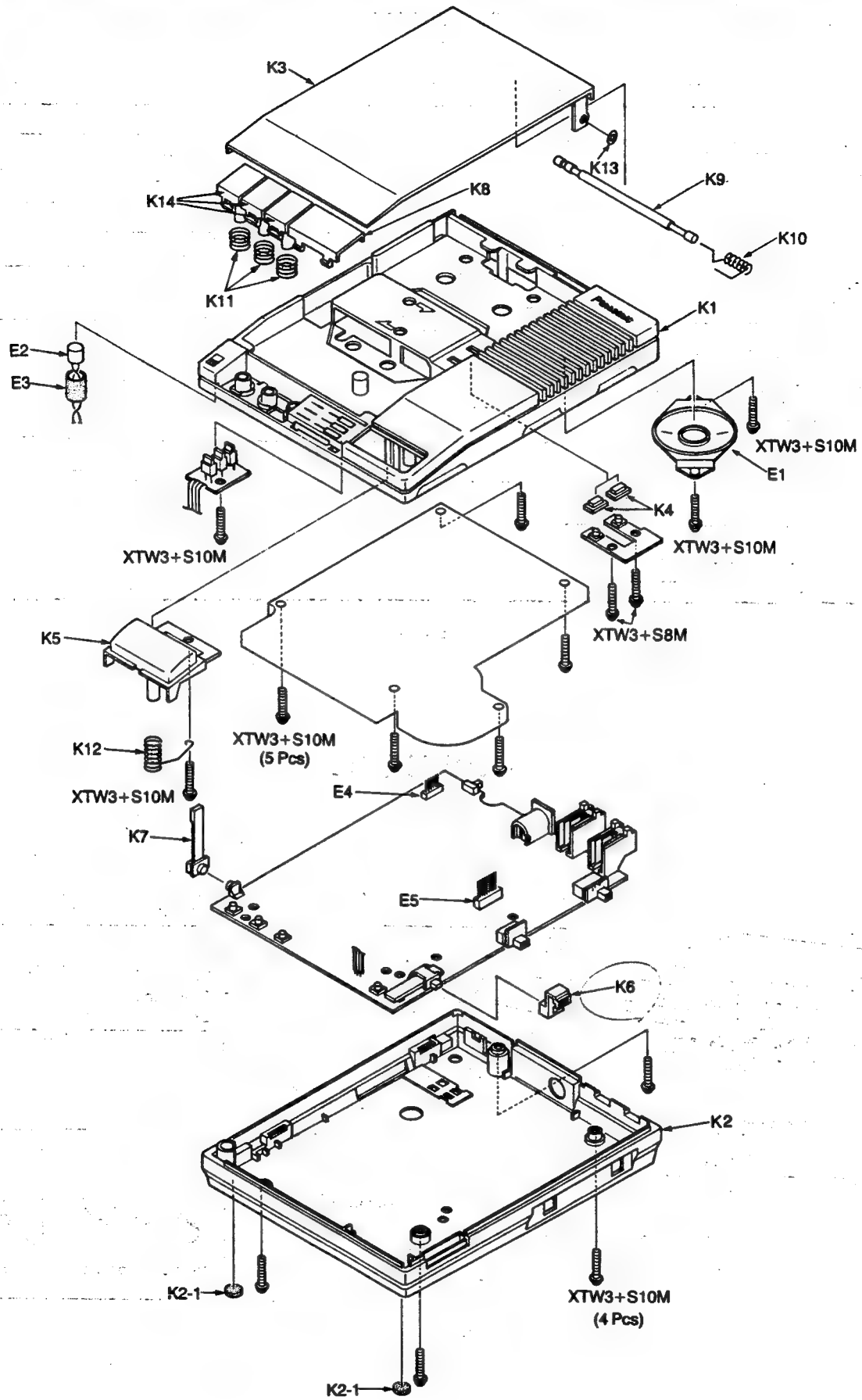
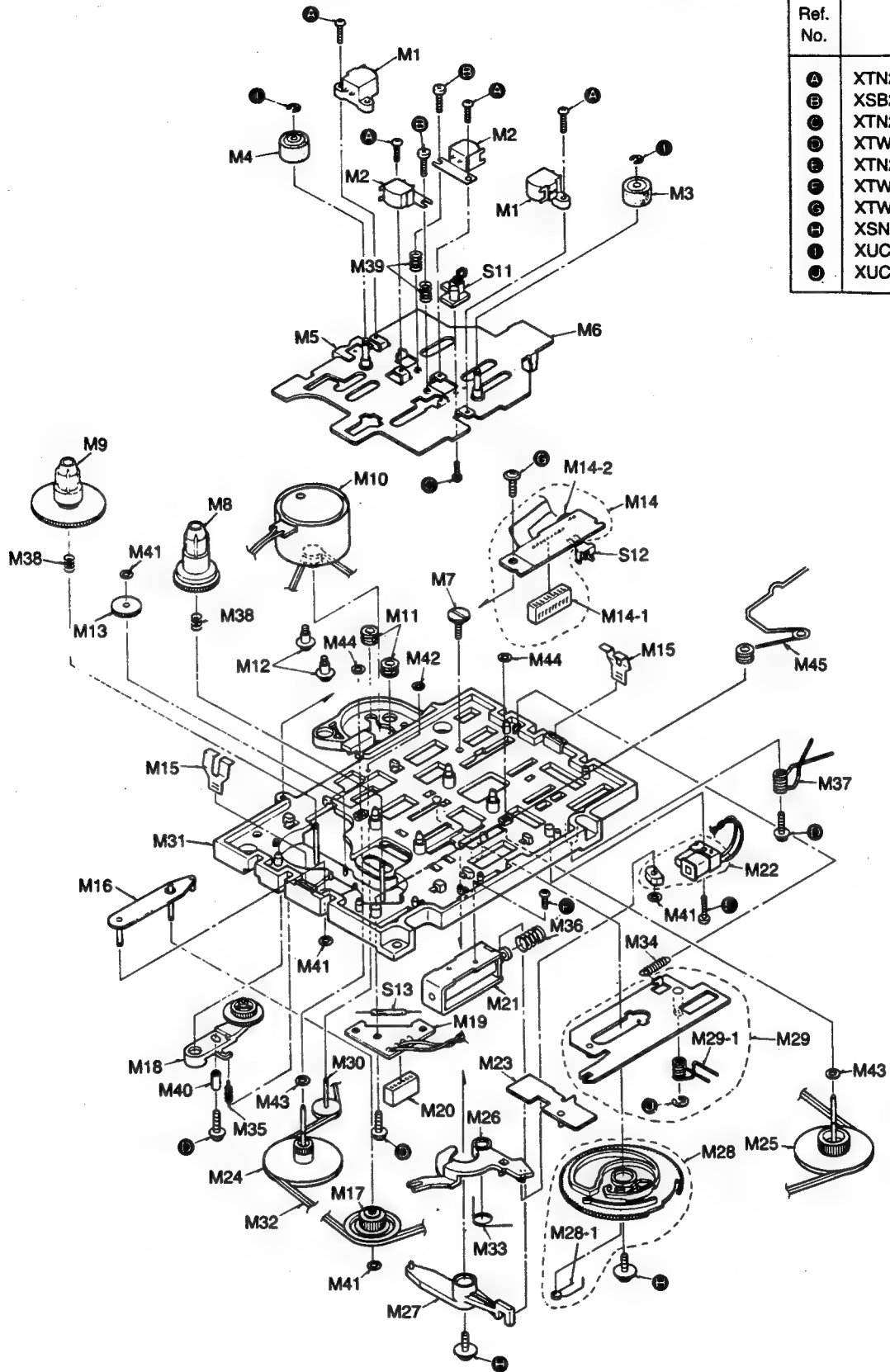


Fig. 12



# MECHANICAL PARTS LOCATION

Ref. No.	Part No.
A	XTN2+5F
B	XSB2+6FN
C	XTN2+6J
D	XTW26+8F
E	XTN2+10J
F	XTW26+5LF
G	XTW3+S10M
H	XSN26+W6FS
I	XUC2FY
J	XUC3FP



## Specifications

Playback torque	35~60 g·cm.
Fast forward torque	90~150 g·cm
Rewind torque	90~150 g·cm

Fig. 13

# REPLACEMENT PARTS LIST

Model KX-T1423

## Notes:

- Important safety notice.  
Components identified by the  $\Delta$  mark special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified parts.
- The S mark indicates service standard parts and may differ from production parts.
- RESISTORS & CAPACITORS  
Unless otherwise specified.  
All resistors are in ohms ( $\Omega$ ) k=1000 $\Omega$ , M=1000k $\Omega$   
All capacitors are in MICRO FARADS ( $\mu$ F) P=  $\mu$ F  
\*Type & Wattage of Resistor

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PORD:Carbon	ERO:Metal Film	ERF:Cement Resistor

Wattage					
10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

## \*Type & Voltage of Capacitor

Type		Voltage	
ECFD:Semi-Conductor	ECQD:ECCD,ECBT,PQC8C: Ceramic	ECQ Type	ECQV Type
ECQS:Styrol	ECQE,ECQV,ECQG: Polyester	1H:50V	05:50V
ECUV:Chip	ECEA,ECSZ: Electrolytic	2A:100V	1:100V
PQCBX:Chip	ECQP: Polypropylene	2E:250V	2:200V

Voltage		Others	
ECQ Type	ECQV Type	ECSZ Type	Others
1H:50V	05:50V	0F:3.15V	0J:5.3V 1V:35V
2A:100V	1:100V	1A:10V	1A:10V 50,1H:50V
2E:250V	2:200V	1V:35V	1C:16V 1J:53V
2H:500V		0J:5.3V	1E:25.25V 2A:100V

Ref. No.	Part No.	Part Name & Description	Pcs
MECHANICAL PARTS			
M1	PQJH8E4Z	Erase Head	2
M2	PQJH1E6Z	R/P Head	2
M3	PQF11004Y	Pinch Roller (OGM)	1
M4	PQF11004Z	Pinch Roller (ICM)	1
M5	PQFW37Z	Guide Rib, Position Switch	1
M6	PQFD9910Z	Head Base Assembly	1
M7	PQHD17Z	Screw	1
M8	PQFR9909Z	Reel Table (Supply) Assembly	1
M9	PQFR9910Z	Reel Table (Takeup) Assembly	1
M10	PQF9908Z	Motor Assembly	1
M11	PQF4Z	Rubber Spacer, Motor	2
M12	PQHD4Z	Screw, Motor Mfg	2
M13	PQFG45Z	Gear, FF	1
M14	PQFZ9903Z	Flexible P.C. Board Assembly	1
M14-1	PQJS9930Z	Connector, 6P	1
M14-2	ECEA1ESS101	Electrolytic Capacitor, 100 $\mu$ F	1
M15	PQFD73Z	Leaf Spring	2
M16	PQFD9908Z	F/R Lever Assembly	1
M17	PQFQ9901Z	F/R Pulley Assembly	1
M18	PQFR9911Z	Play Arm Assembly	1
M19	PQUP427Z	P.C. Board	1
M20	PQJS6830Z	Connector, 6P	1
M21	PQFP119Z	Plunger-A	1
M22	PQFP121Z	Plunger-B	1
M23	PQFD9909Z	Operation Plate Assembly	1
M24	PQFF9905Z	Flywheel (ICM) Assembly	1
M25	PQFF9906Z	Flywheel (OGM) Assembly	1
M26	PQFY9905Z	Trigger Lever-B Assembly	1
M27	PQFY9904Z	Trigger Lever-A Assembly	1
M28	PQFG9903Z	Cam Gear Assembly	1
M28-1	PQFS97Z	Spring, Cam Gear	1
M29	PQFD9907Z	Assistant Plate Assembly	1
M29-1	PQFS92Z	Spring, Assistant Plate	1
M30	PQFQ9902Z	Idler Pulley Assembly	1
M31	PQFC9905Z	Mechanism Base Assembly	1
M32	PQFB15Z	Belt	1
M33	PQFS87Z	Spring, Trigger Lever-A	1
M34	PQFS93Z	Spring, Assistant Plate	1
M35	PQFS38Z	Spring, Plate Arm	1
M36	PQFS86Z	Spring, Plunger-A	1

Ref. No.	Part No.	Part Name & Description	Pcs
M37	PQFS94Z	Spring, Head Base	1
M38	PQFS90Z	Spring, Reel Table	2
M39	PQFS98Z	Spring, Head Azimuth	2
M40	PQHE11Z	Spacer	1
M41	PQFN7Z	Washer	4
M42	PQFN29Z	Washer	1
M43	PQFN12Z	Washer	2
M44	PQFN16Z	Washer	2
M45	PQFS106Z	Spring	1

## INTEGRATED CIRCUITS, TRANSISTORS & DIODES

IC1	PQV4140SA11	IC	1
IC2	PQVITA7628P	IC	1
IC3, 4	PQVIPD4066BC	IC	2 S
IC5	AN6552	IC	1 S
IC6	PQVITC35300P	IC	1
Q1,8	2SA937	Transistor(Si)	$\Delta$ 2 S
Q2,5-7, 10,16-18	2SC2021	Transistor(Si)	8 S
Q12	2SD1266	Transistor(Si)	1
Q13,14	2SB909M	Transistor(Si)	2
D1	PQVDS1YB40F1	Diode(Si)	$\Delta$ 1
D2,3	PQVDMT25R8	Diode(Si)	$\Delta$ 2
D4	PQVDVR61B	Varistor	$\Delta$ 1
D5-14, 16, 17, 22-33	1SS131	Diode(Si)	24 S
D19	PQVDMT26R8	Diode(Si)	1
D20	1S2076	Diode(Si)	1
LED1	LN368GP-JF3	LED	1
LED2	LN268RP-JF2	LED	1
LED3	LN268RP-JF1	LED	1
ZNR1	PQVDNV430D07	Varistor	$\Delta$ 1

## SWITCHES

S1	PQSS2A27Z	Switch, Rec Time	1
S2	PQSS2A16Y	Switch, CPC	1
S3	PQSS3A17Z	Switch, Rings	1
S4	PQSS3A20Z	Switch, Remote Code Selector	1
S5	EVQ-QSH04K	Switch, ON/OFF	1
S6,7,9	EVQ-QS205K	Switch, F/F, Rewind, Memo, Rec, OGM	5
101, 102			
S8	EVQ-QS405K	Switch, Playback/Pause	1
S10	PQFA9901Z	Switch, Sensing (for Deck)	1
S11	PQSH1A17XZ	Switch, Head Position (for Deck)	1
S12	PQSE17Y	Switch, Reed (for Deck)	1
FLY1	PQSL29Z	Switch, Relay	$\Delta$ 1 S

## JACKS

JU1,2	PQJ1TA9Z	Jack, Telephone	$\Delta$ 2
J3	PQJ1B4Y	Jack, DC IN	1

## OTHERS

R42	PQVAL401A14Z	Volume Control, 10k $\Omega$ (A)	1
T1	PQLT8G1C	Transmission Transformer	$\Delta$ 1
CF1	PQVBFC4004A3	Ceramic Filter	1
CF2	PQVBFC3584A1	Ceramic Filter	1
PC1	PQVIPC814K	Photo Coupler	$\Delta$ 1
PC2	PQVIPC817K	Photo Coupler	$\Delta$ 1

## CABINET PARTS

K1	PQYMT1423M	Upper Cabinet Assembly	1
K2	PQYF1012Z0	Lower Cabinet Assembly	1
K2-1	RHG1028Z	Rubber, Leg	2

Ref. No.	Part No.	Part Name & Description	Pcs		
K3	PQYOT1424M	Cassette Lid Assembly	1		
K4	PQBC150Z	Button, OGM	2		
K5	PQBC151Y	Button, Playback/Pause	1		
K6	PQBC152Z	Button, ON/OFF	1		
K7	PQBD77Z	Knob, Volume Control	1		
K8	PQGP57Z	Panel	1		
K9	PQUL65Z	Shaft, Cassette Lid	1		
K10	PQUS110Z	Spring, Cassette Lid	1		
K11	PQUS111Y	Spring	3		
K12	PQUS118Z	Spring	1		
K13	PQHR444Z	Spacer, Panel	1		
K14	PQBCX36Z1	Button, 2Way, Rewind, F/F	1		
ELECTRICAL PARTS					
E1	PQASSP05Z	Speaker	1		
E2	RJM142Z	Microphone	1		
E3	PQHG503Z	Rubber Parts, Microphone Cover	1		
E4	PQJP6D57Z	Connector, 6Pin	1		
E5	PQJP9D56Z	Connector, 9Pin	1		
ACCESSORIES					
A1	KX-A11	AC Adaptor	1 S		
A2	PQJA59Y	Handset Cord	1		
A3	PQJN4Z	Endless Cassette Tape (30sec)	1		
PACKING MATERIALS					
P1	PQPN686Z	Pad	1		
P2	PQPN687Z	Pad	1		
P3	PQPK506Z	Gift Box	1		
PRINTED MATERIALS					
Y1	PQX5416Z	Instruction Book	1		
Y2	PQX1308Z	Dial Card	1		
Ref No.	Part No.	Value	Ref No.	Part No.	Value
RESISTORS					
R1	PQRDF2VJ151	150 $\Delta$	R30	ERD25TJ103	10k
R2	ERDS1TJ223	22k $\Delta$	R31	ERD10TLJ103	10k
R3	ERD10TLJ470	47 $\Delta$	R32	Not Used	
R4	ERD16TJ223	22k $\Delta$	R33	ERD10TLJ183	18k
R5	ERD10TLJ823	82k $\Delta$	R34	ERD10TLJ334	330k
R6	ERD16TJ822	8.2k $\Delta$	R35	ERD10TLJ331	330
R7	ERD16TJ682	6.8k $\Delta$	R36	ERD16TJ271	270
R8	ERD10TLJ273	27k $\Delta$	R37	Not Used	
R9	ERD10TLJ752	7.5k	R38	Not Used	
R10	ERD10TLJ680	68	R39	ERD10TLJ103	10k
R11	ERD10TLJ331	330	R40	ERD16TJ471	470
R12	ERD10TLJ154	150k	R41	ERD10TLJ103	10k
R13	ERD16TJ181	180	R42	Not Used	
R14	ERD16TJ563	56k	R43	ERD16TJ222	2.2k
R15	ERD10TLJ564	560k	R44	ERD25TJ335	3.3M
R16	ERD10TLJ273	27k	R45	Not Used	
R17	Not Used		R46	ERD10TLJ184	180k
R18	ERD16TJ103	10k	R47	ERD10TLJ273	27k
R19	ERD16TJ103	10k	R48	ERD16TJ273	27k
R20	ERD10TLJ334	330k	R49	ERD10TLJ100	10
R21	ERD16TJ102	1k	R50	Not Used	
R22	ERD10TLJ681	680	R51	ERD16TJ103	10k
R23	ERD10TLJ473	47k	R52	ERD10TLJ272	2.7k
R24	ERD10TLJ153	15k	R53	ERD10TLJ152	1.5k
R25	Not Used		R54	ERD16TJ682	6.8k
R26	Not Used		R55	ERD10TLJ472	4.7k
R27	ERD10TLJ681	680	R56	ERD10TLJ472	4.7k
R28	ERD10TLJ473	47k	R57	Not Used	
R29	ERD10TLJ470	47	R58	ERD10TLJ684	680k

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
R60	ERD16TJ103	10k	R83	ERD10TLJ122	1.2k
R61	ERD10TLJ104	100k	R84	ERD10TLJ103	10k
R62	ERD16TJ102	1k	R85	ERD16TJ473	47k
R63	ERD16TJ563	56k	R86	ERD16TJ122	1.2k
R64	ERD10TLJ683	68k	R87	ERD16TJ103	10k
R65	ERD10TLJ470	47	R88	Not Used	
R66	ERD16TJ104	100k	R89	Not Used	
R67	Not Used		R90	ERD10TLJ472	4.7k
R70	Not Used		R91	ERD10TLJ473	47k
R71	ERD10TLJ103	10k	R92	ERD16TJ122	1.2k
R72	ERD10TLJ103	10k	R93	ERD10TLJ103	10k
R73	ERD10TLJ333	33k	R94	ERD16TJ683	68k
R74	ERD10TLJ103	10k	R95	ERD16TJ223	22k
R75	Not Used		R96	ERD16TJ821	820
R76	ERDS1TJ391	390	R97	ERD16TJ821	820
R77	ERD16TJ473	47k	R98	ERD16TJ151	150
R78	Not Used		R105	ERD10TLJ105	1M
R79	ERD10TLJ183	18k	R106	ERD16TJ563	56k
R80	PQRQ2VJ180	18	R107	ERD10TLJ184	180k
R81	Not Used		R114	ERD10TLJ100	10
R82	ERD16TJ473	47k	R117	ERD10TLJ683	68k
			R201	ERD25TJ474	470k
			R202	ERD25TJ474	470'
CAPACITORS					
C1	ECOE2474KS	0.1 $\Delta$	C31	Not Used	
C2	ECFD1E473MD	0.047 $\Delta$	C32	Not Used	
C3	ECEA1EU101	100 $\Delta$	C33	ECEA1HK010	1
C4	ECFD1C104MD	0.1	C34	Not Used	
C5	Not Used		C35	Not Used	
C6	PQCBX1C103MY	0.01	C36	ECEA1CK101	100 S
C7	Not Used		C37	ECEA1HKS47	0.47
C8	ECEA1AKS330	33	C38	ECEA1CK101	100 S
C9	ECEA1HK010	1	C39	ECFD1C103MD	0.0
C10	ECUV1H681KB	680P	C40	Not Used	
C11	ECEA1CKS100	10	C41	Not Used	
C12	PQCBX1C103MY	0.01	C42	ECFD1E223MD	0.022
C13	ECUV1H471KB	470P	C43	ECEA1HK0R1	0.1
C14	ECEA1HKS2R2	2.2	C44		
C15	ECUV1H471KB	470P		Not Used	
C16	ECEA0JK221	220	C46		
C17	ECEA1CKS470	47 S	C47	PQCBX1C103MY	0.01
C18	Not Used		C48	Not Used	
C19	ECEA1HKS333	0.33	C49	Not Used	
C20	PQCBX1C103MY	0.01	C50	ECEA0JK221	220
C21	PQCBX1C103MY	0.01	C51	Not Used	
C22	ECUV1H681KB	680P	C52	ECEA0JK332	330"
C23	ECEA1CKS220	22	C53		
C24	PQCBX1C103MY	0.01		Not Used	
C25	ECEA0JKS101	100	C55		
C26	ECEA0JK221	220	C56	ECEA1HK010	1
C27	ECEA0JK221	220			
C28	ECEA1HK010	1	C61	ECEA1HKS3R3	3.3
C29	ECEA1HK010	1	C62	ECEA0JKS101	100
C30	PQCBX1C103MY	0.01			

# REPLACEMENT PARTS LIST

## Notes:

Model KX-T1423

### 1. Important safety notice.

Components identified by the  $\Delta$  mark special characteristics important for safety.

when replacing any of these components, use only manufacture's specified parts.

### 2. The S mark indicates service standard parts and may differ from production parts.

### 3. RESISTORS & CAPACITORS

Unless otherwise specified.

All resistors are in ohms ( $\Omega$ ) k=1000 $\Omega$ , M=1000k $\Omega$

All capacitors are in MICRO FARADS ( $\mu$ F) P=  $\mu$ F

\*Type & Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ERO:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	22W	33W
------------	------------	---------	------	-----	-----

\*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBG: Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG: Polyster
ECUV:Chip	ECEA,ECSZ: Electrolytic
PQCBX:Chip	ECQP: Polypropylene

Voltage

ECQ Type	ECQG Type	ECSZ Type	Others	
1H:50V	05:50V	0F:3.15V	0J:5.3V	1V:35V
2A:100V	1:100V	1A:10V	1A:10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C:16V	1J:53V
2H:500V		0J:5.3V	1E:25.25V	2A:100V

Ref. No.	Part No.	Part Name & Description	Pcs
MECHANICAL PARTS			
M1	PQJH6E4Z	Erase Head	2
M2	PQJH1E6Z	R/P Head	2
M3	PQF11004Y	Pinch Roller (OGM)	1
M4	PQF11004Z	Pinch Roller (ICM)	1
M5	PQFW37Z	Guide Rib, Position Switch	1
M6	PQFD9910Z	Head Base Assembly	1
M7	PQHD17Z	Screw	1
M8	PQFR9909Z	Reel Table (Supply) Assembly	1
M9	PQFR9910Z	Reel Table (Takeup) Assembly	1
M10	PQFR9908Z	Motor Assembly	1
M11	PQFM4Z	Rubber Spacer, Motor	2
M12	PQHD4Z	Screw, Motor Mtg	2
M13	PQFG45Z	Gear, FF	1
M14	PQFZ9903Z	Flexible P.C. Board Assembly	1
M14-1	PQJS9830Z	Connector, 9P	1
M14-2	ECEA1ESS101	Electrolytic Capacitor, 100 $\mu$ F	1
M15	PQFD73Z	Leaf Spring	2
M16	PQFD9906Z	F/R Lever Assembly	1
M17	PQFQ9901Z	F/R Pulley Assembly	1
M18	PQFR9911Z	Play Arm Assembly	1
M19	PQUP427Z	P.C. Board	1
M20	PQJS9830Z	Connector, 6P	1
M21	PQFP119Z	Plunger-A	1
M22	PQFP121Z	Plunger-B	1
M23	PQFD9909Z	Operation Plate Assembly	1
M24	PQFF9905Z	Flywheel (ICM) Assembly	1
M25	PQFF9906Z	Flywheel (OGM) Assembly	1
M26	PQFY9905Z	Trigger Lever-B Assembly	1
M27	PQFY9904Z	Trigger Lever-A Assembly	1
M28	PQFG9903Z	Cam Gear Assembly	1
M28-1	PQFS97Z	Spring, Cam Gear	1
M29	PQFD9907Z	Assistant Plate Assembly	1
M29-1	PQFS92Z	Spring, Assistant Plate	1
M30	PQFQ9902Z	Idler Pulley Assembly	1
M31	PQFC9905Z	Mechanism Base Assembly	1
M32	PQFB15Z	Belt	1
M33	PQFS87Z	Spring, Trigger Lever-A	1
M34	PQFS93Z	Spring, Assistant Plate	1
M35	PQFS98Z	Spring, Plate Arm	1
M36	PQFS86Z	Spring, Plunger-A	1

Ref. No.	Part No.	Part Name & Description	Pcs
M37	PQFS94Z	Spring, Head Base	1
M38	PQFS90Z	Spring, Reel Table	2
M39	PQFS98Z	Spring, Head Azimuth	2
M40	PQHE11Z	Spacer	1
M41	PQFN7Z	Washer	4
M42	PQFN29Z	Washer	1
M43	PQFN12Z	Washer	2
M44	PQFN16Z	Washer	2
M45	PQFS106Z	Spring	1
INTEGRATED CIRCUITS, TRANSISTORS & DIODES			
IC1	PQV14140SA11	IC	1
IC2	PQVITA7628P	IC	1
IC3, 4	PQVIPD4066BC	IC	2 S
IC5	AN6552	IC	1 S
IC6	PQVITC35300P	IC	1
Q1,8	2SA937	Transistor(Si)	$\Delta$ 2 S
Q2,5-7, 10,16-18	2SC2021	Transistor(Si)	8 S
Q12	2SD1266	Transistor(Si)	1
Q13,14	2SB909M	Transistor(Si)	2
D1	PQVDS1YB40F1	Diode(Si)	$\Delta$ 1
D2,9	PQVDMT25R6	Diode(Si)	$\Delta$ 2
D4	PQVDVR61B	Varistor	$\Delta$ 1
D5-14, 16, 17, 22-33	1SS131	Diode(Si)	24 S
D19	PQVDMT26R8	Diode(Si)	1
D20	1S2076	Diode(Si)	1
LED1	LN368GP-JF3	LED	1
LED2	LN268RP-JF2	LED	1
LED3	LN268RP-JF1	LED	1
ZNR1	PQVDNV430D07	Varistor	$\Delta$ 1
SWITCHES			
S1	PQSS2A27Z	Switch, Rec Time	1
S2	PQSS2A16Y	Switch, CPC	1
S3	PQSS3A17Z	Switch, Rings	1
S4	PQSS3A20Z	Switch, Remote Code Selector	1
S5	EVQ-QSH04K	Switch, ON/OFF	1
S6,7,9	EVQ-QS205K	Switch, F/F, Rewind, Memo, Rec, OGM	5
101, 102			
S8	EVQ-QS405K	Switch, Playback/Pause	1
S10-11	PQFA9901Z	Switch, Sensing (for Deck)	1
S14-15	PQSH1A17X-Z	Switch, Head Position (for Deck)	1
S12-13	PQSE17Y	Switch, Reed (for Deck)	1
RLY1	PQSL29Z	Switch, Relay	$\Delta$ 1 S
JACKS			
J1, 2	PQJ1TA9Z	Jack, Telephone	$\Delta$ 2
J3	PQJ1B4Y	Jack, DC IN	1
OTHERS			
R42	PQVAL401A14Z	Volume Control, 10k $\Omega$ (A)	1
T1	POLT8G1C	Transmission Transformer	$\Delta$ 1
CF1	PQVBFC4004A3	Ceramic Filter	1
CF2	PQVBFC3584A1	Ceramic Filter	1
PC1	PQVIPC814K	Photo Coupler	$\Delta$ 1
PC2	PQVIPC817K	Photo Coupler	$\Delta$ 1
CABINET PARTS			
K1	PQYMT1423M	Upper Cabinet Assembly	1
K2	PQYF101220	Lower Cabinet Assembly	1
K2-1	RHG1028Z	Rubber, Leg	2

# Service Manual

Telephone Equipment  
KX-T1423-2

**AUTO-LOGIC™**  
**EASA-PHONE®**  
AUTOMATIC TELEPHONE  
ANSWERING SYSTEM

ORDER NO. KM48805695A1  
F1

Please use this manual together with the service manual for model No. KX-T1423, order No. KM48705469C1.  
This Service Manual indicates the main differences between; Original KX-T1423 and KX-T1423-2.

## CHANGES

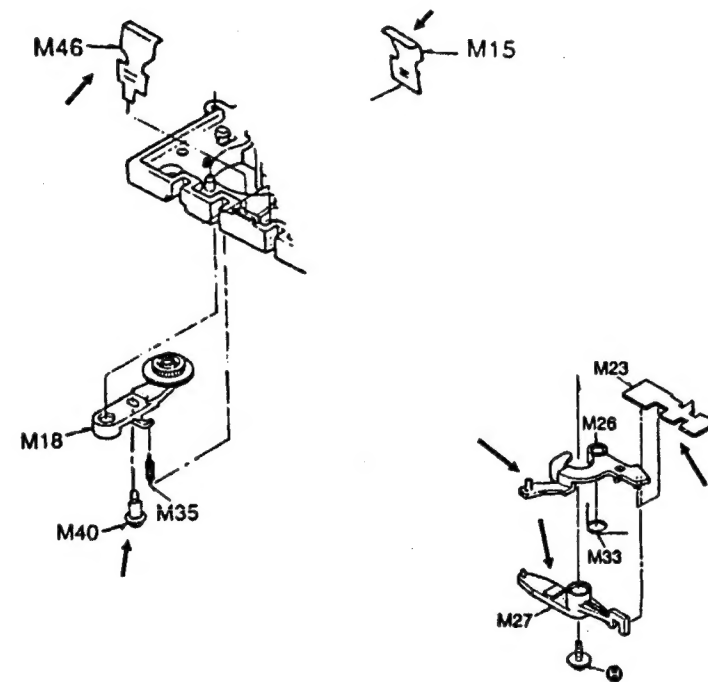
**Panasonic EASA-PHONE**  
MODEL NO. **KX-T1423**  
TELEPHONE EQUIPMENT  
POWER SOURCE  
DC IN 12V/13V (USE Panasonic AC ADAPTOR KX-A11  
OR KX-A 07L ONLY.)  
Matsushita Electric Industrial Co., Ltd. Made in Japan  
Complies With Part 68, FCC Rules  
FCC Registration Number ACJ96-N72966-AN-N  
Ringer Equivalence 0.4B  
(Model KX-T1423)

**Panasonic EASA-PHONE**  
MODEL NO. **KX-T1423** (A)  
TELEPHONE EQUIPMENT  
POWER SOURCE  
DC IN 12V/13V (USE Panasonic AC ADAPTOR KX-A11  
OR KX-A 07L ONLY.)  
Matsushita Electric Industrial Co., Ltd. Made in Japan  
Complies With Part 68, FCC Rules  
FCC Registration Number ACJ96-N72966-AN-N  
Ringer Equivalence 0.4B  
(Model KX-T1423-A)

**Panasonic EASA-PHONE**  
MODEL NO. **KX-T1423** (2)  
TELEPHONE EQUIPMENT  
POWER SOURCE  
DC IN 12V/13V (USE Panasonic AC ADAPTOR KX-A11  
OR KX-A 07L ONLY.)  
Matsushita Electric Industrial Co., Ltd. Made in Japan  
Complies With Part 68, FCC Rules  
FCC Registration Number ACJ96-N72966-AN-N  
Ringer Equivalence 0.4B  
(Model KX-T1423-2)

- There are 3 types of model KX-T1423, such as KX-T1423, KX-T1423-A and KX-T1423-2.
- Model KX-T1423-2 have a mark (2) on the name plate as shown in figure above.
- Please use this manual for model KX-T1423-2.

## MECHANICAL PARTS LOCATION



(Model KX-T1423-2)

Matsushita Services Company  
50 Meadowland Parkway,  
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.  
99-859 Iwaiwa Street  
P. O. Box 774  
Honolulu, Hawaii 96808-0774

Matsushita Electric  
of Canada Limited  
5770 Ambler Drive, Mississauga,  
Ontario, L4W 2T3

Panasonic Sales Company,  
Division of Matsushita Electric  
of Puerto Rico, Inc.  
Ave. 65 De Infanteria, KM9.7  
Victoria Industrial Park  
Carolina, Puerto Rico 00630

KX-T1423-2

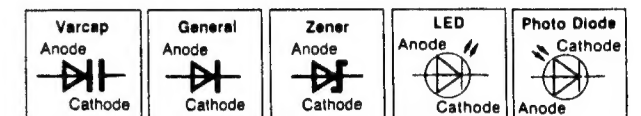
## FOR SCHEMATIC DIAGRAM

### Notes:

- S1: Recording time selector switch in "VOX" position.
- S2: CPC switch in "A" position.
- S3: Ring selector switch in "AUTO" position.
- S4: Remote code selector switch in "ALL ZERO" position.
- S5: Power switch.
- S6: Fast forward switch.
- S7: Rewind switch.
- S8: Playback/Pause switch.
- S9: Message memo switch.
- S10: Sensing switch.
- S11: Head position switch.
- S12: Reed switch.
- S101: Record switch.
- S102: OGM-start/stop switch
- DC voltage measurements are taken with electronic voltmeter from negative line.
- This schematic diagram may be modified at any time with the development of new technology.

### Important safety notice

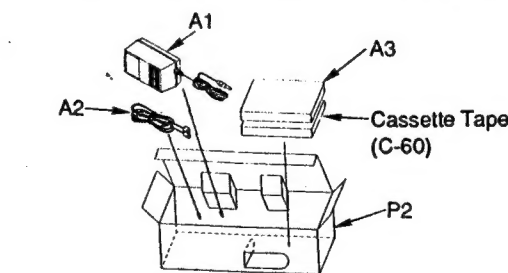
The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.



## TERMINAL GUIDE OF ICs, TRANSISTORS AND DIODES

<p>IC1</p>	<p>IC2</p>	<p>IC3, 4</p>	<p>IC5</p>	<p>IC6</p>
<p>Q2, 5, 6, 8, 10, 16~18, 21, 22</p>	<p>Q12</p>	<p>Q1, 3</p>	<p>Cathode Anode</p>	<p>D1-6, 8-11, 13, 14, 16, 17, 19, 20, 22~34</p>

## ACCESSORIES & PACKING MATERIALS



## CABINET AND ELECTRICAL PARTS LOCATION

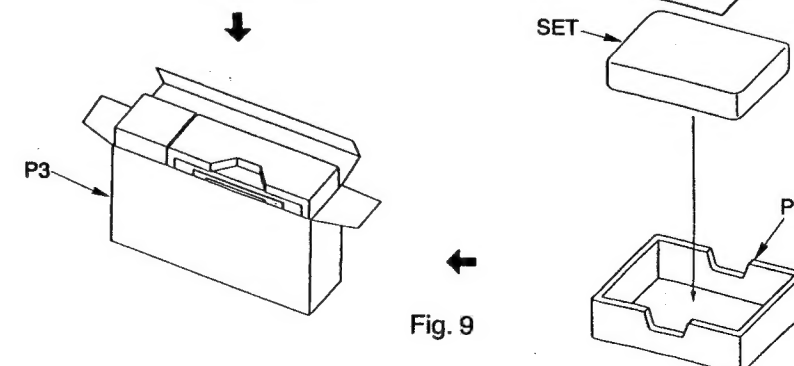
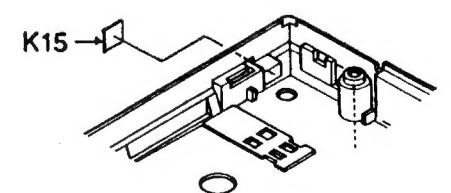
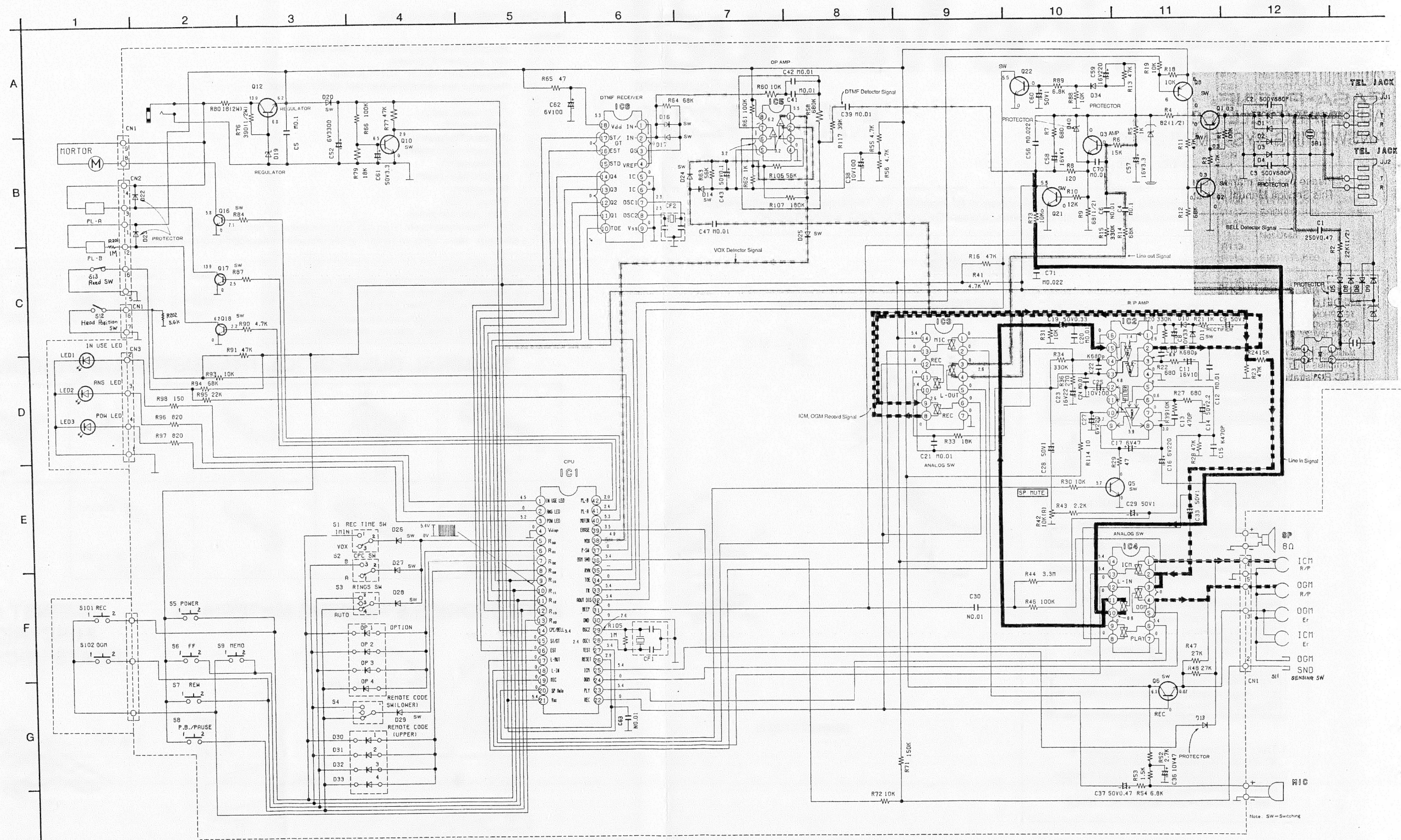


Fig. 9

**Panasonic**



## SCHEMATIC DIAGRAM







## REPLACEMENT PARTS LIST

Model KX-T1423-2

- Notes:
- Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.
  - Important safety notice.  
Components identified by the  $\Delta$  mark special characteristics important for safety when replacing any of these components, use only manufacturer's specified parts.
  - The S mark indicates service standard parts and may differ from production parts.

## 4. RESISTORS &amp; CAPACITORS

Unless otherwise specified.

All resistors are in ohms (  $\Omega$  ) k=1000 $\Omega$ , M=1000k $\Omega$ All capacitors are in MICRO FARADS (  $\mu$ F ) P= 0.001 $\mu$ F

\*Type &amp; Wattage of Resistor

Type

ERC:Solid	ERX: Metal Film	PQ4R: Carbon
ERD: Carbon	ERG: Metal Oxide	PQRQ: Fuse
PQRD: Carbon	ERO: Metal Film	ERF: Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12, S1:1/2W	1:1W	2:2W	3:3W
------------	------------	-------------	------	------	------

\*Type &amp; Voltage of Capacitor

Type

ECFD: Semi-Conductor	ECCK, ECKD, ECBT, PQCBC: Ceramic
ECQS: Styrol	ECQE, ECQV, ECQG: Polyester
ECUV: Chip	ECEA, ECSZ: Electrolytic
PQCBX: Chip	ECQP: Polypropylene

Voltage

ECQ Type	ECQG Type	ECSZ Type	Others		
1H: 50V	05: 50V	0F: 3.15V	0J: 6.3V	1V: 35V	
2A: 100V	1: 100V	1A: 10V	1A: 10V	50, 1H: 50V	
2E: 250V	2: 200V	1V: 35V	1C: 16V	1J: 63V	
2H: 500V		0J: 6.3V	1E: 25: 25V	2A: 100V	

Ref. No.	Part No.	Part Name & Description	Pcs
----------	----------	-------------------------	-----

## MECHANICAL PARTS

M1	PQH6E4Z	Erase Head	2
M2	PQH1E6Z	R/P Head	2
M3	PQF1004Y	Pinch Roller (OGM)	1
M4	PQF1004Z	Pinch Roller (ICM)	1
M5	PQFW37Z	Guide Rib, Position Switch	1
M6	PQFD9910Z	Head Base Assembly	1
M7	PQHD17Z	Screw	1
M8	PQFR9909Z	Reel Table (Supply) Assembly	1
M9	PQFR9910Z	Reel Table (Takeup) Assembly	1
M10	PQFM9908Z	Motor Assembly	1
M11	PQFI4Z	Rubber Spacer, Motor	2
M12	PQHD4Z	Screw, Motor Mtg	1
M13	PQFG45Z	Gear, FF	1
M14	PQFZ9903Y	Flexible P.C. Board Assembly	1
M14-1	PQJS9830Z	Connector, 9P	1
M14-2	PQRDS2TJ563	Carbon Film Resistor, 56k $\Omega$ (R202)	1
M15	PQFD76Z	Leaf Spring	1
M16	PQFD9908Z	F/R Lever Assembly	1
M17	PQFQ9901Z	F/R Pulley Assembly	1
M18	PQFR9911Z	Play Arm Assembly	1
M19	PQUP68Z	P.C. Board	1
M20	PQJS6830Z	Connector, 6P	1
M21	PQFP119Z	Plunger-A	1
M22	PQFP121Z	Plunger-B	1
M23	PQFD70Y	Operation Plate	1
M24	PQFF9905Z	Flywheel (ICM) Assembly	1
M25	PQFF9906Z	Flywheel (OGM) Assembly	1
M26	PQFY9905Y	Trigger Lever-B Assembly	1
M27	PQFY9904Y	Trigger Lever-A Assembly	1
M28	PQFG9903Z	Cam Gear Assembly	1
M28-1	PQFS97Z	Spring, Cam Gear	1
M29	PQFD9907Z	Assistant Plate Assembly	1
M29-1	PQFS92Z	Spring, Assistant Plate	1
M30	Not Used		
M31	PQFC9905Z	Mechanism Base Assembly	1
M32	PQFB2Y	Belt	1
M33	PQFS87Z	Spring, Trigger Lever-A	1
M34	PQFS93Z	Spring, Assistant Plate	1
M35	PQFS88Z	Spring, Plate Arm	1
M36	PQFS86Z	Spring, Plunger-A	1

Ref. No.	Part No.	Part Name & Description	Pcs
M37	PQFS94Z	Spring, Head Base	1
M38	PQFS90Z	Spring, Reel Table	2
M39	PQFS98Z	Spring, Head Azimuth	2
M40	PQHD18Z	Screw	1
M41	PQFN7Z	Washer	4
M42	Not Used		
M43	PQFN12Z	Washer	2
M44	PQFN16Z	Washer	2
M45	PQFS106Z	Spring	1
M46	PQFD77Z	Leaf Spring	1

## INTEGRATED CIRCUITS, TRANSISTORS &amp; DIODES

IC1	PQVI4140SA11	IC	1
IC2	AN7104	IC	1
IC3, 4	PQVITC4066BP	IC	2
IC5	AN6552	IC	1
IC6	PQVIMT8870BC	IC	1
Q1	2SA1625	Transistor(Si)	1 $\Delta$
Q2	2SD662B	Transistor(Si)	1 $\Delta$
Q3	2SC2120	Transistor(Si)	1
Q5, 6, 10	2SC2021	Transistor(Si)	23
Q8	2SA937	Transistor(Si)	1
Q12	2SD1266	Transistor(Si)	1
Q16, 17	2SD1255M	Transistor(Si)	2
D1-4	PQVD1N4004	Diode(Si)	4 $\Delta$
D5, 6, 8-11	1SS131	Diode(Si)	23 $\Delta$
D19	PQVDMT26R8	Diode(Si)	1
D20	1S2076	Diode(Si)	1
D40	MA4180	Diode(Si)	1 $\Delta$
LED1	LN368GP-JF3	LED	1
LED2	LN268RP-JF2	LED	1
LED3	LN268RP-JF1	LED	1

## SWITCHES

S1, 2	PQSS2A27Z	Switch, Rec Time, CPC	2
S3	PQSS3A17Z	Switch, Rings	1
S4	PQSS3A21Z	Switch, Remote Code Selector	1
S5	EVQ-QSH04K	Switch, ON/OFF	1
S6, 7, 9	EVQ-QS205K	Switch, F/F, Rewind, Memo, Rec, OGM	5 $\Delta$
101, 102			
S8	PQSH1A13Z	Switch, Playback/Pause	1
S11	PQFA9902Z	Switch, Sensing (for Deck)	1
S12	PQSH1A17Y $\Delta$	Switch, Head Position (for Deck)	1
S13	PQSE17Y	Switch, Reed (for Deck)	1

## JACKS

J1, 2	PQJ1TA9Z	Jack, Telephone	2 $\Delta$
J3	PQJ1B4Y	Jack, DC IN	1

## OTHERS

R42	PQVAL401A14A	Volume Control, 10k $\Omega$ (A)	1
SA1	PQVDSAE310F1	Varistor (Surge Absorber)	1 $\Delta$
CF1	PQVBFCA004A3	Ceramic Filter	1
CF2	PQVBFCA3584A1	Ceramic Filter	1
PC1	PQVIPCB17K	Photo Electric Transducer (Photo Coupler)	1 $\Delta$

## CABINET PARTS

K1	PQYMT1423M2	Upper Cabinet Assembly	1
K2	PQYF1012T0	Lower Cabinet Assembly	1
K3	PQYQT1423M2	Cassette Lid Assembly	1
K4	Not Used		
K5	PQBC165Z	Button, Playback/Pause	1
K6	PQBC152Z	Button, ON/OFF	1

Ref. No.	Part No.	Part Name & Description	Pcs
K7	PQBD77Z	Knob, Volume Control	1
K8	PQGP57Z	Panel	1
K9	PQUL65Y	Shaft, Cassette Lid	1 S
K10	PQUS110Z	Spring, Cassette Lid	1
K11	PQUS111Y	Spring	3
K12	Not Used		
K13	PQHR444Z	Spacer, Panel	1
K14	PQBCX36Z1	Button, 2Way, Rewind, F/F	1
K15	PQQT52Q	Label (Code NO. 9)	1
K15	PQQT52R	Label (Code NO. 8)	1
K15	PQQT52T	Label (Code NO. 6)	1
K15	PQQT52U	Label (Code NO. 5)	1
K15	PQQT52V	Label (Code NO. 4)	1
K15	PQQT52W	Label (Code NO. 3)	1
K15	PQQT52X	Label (Code NO. 2)	1
K15	PQQT52Y	Label (Code NO. 1)	1

## ELECTRICAL PARTS

E1	PQAS5P05Z	Speaker	1
E2	RJM142Z	Microphone	1 S
E3	PQHG503Z	Rubber Parts, Microphone Cover	1
E4	PQJP6D57Z	Connector, 6Pin	1
E5	PQJP9D56Z	Connector, 9Pin	1
E6	PQWP1T1423M2	Main, P.C. Board Assembly (NLA)	1
E7	PQWP2T1423M	P.C. Board Assembly (NLA)	1

## ACCESSORIES

A1	KX-A11	AC Adaptor	1
A2	PQJA59Y	Handset Cord	1 S
A3	PQJN4Z	Endless Cassette Tape (30sec)	1
A4	PQXQ5416Z	Instruction Book	1

## PACKING MATERIALS

P1	PQPN810Z	Pad	1
P2	PQPN836Z	Accessories Box	1
P3	PQPK506X	Gift Box	1

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
----------	----------	-------	----------	----------	-------

## RESISTORS

R1	ERD10TLJ104	100k $\Delta$	R30	ERD25TJ103	10k
R2	ERDS1TJ223	22k $\Delta$	R31	ERD10TLJ103	10k
R3	ERD10TLJ472	4.7k $\Delta$	R32	Not Used	
R4	ERDS1TJ820	82 $\Delta$	R33	ERD10TLJ183	18k
R5	ERD10TLJ102	1k	R34	ERD10TLJ334	330k
R6	ERD10TLJ153	15k	R35	Not Used	
R7	ERD10TLJ681	680	R36	ERD10TLJ271	270
R8	ERD10TLJ121	120	R37	Not Used	
R9	ERD25TJ680	68	R38	Not Used	
R10	ERD10TLJ123	12k	R39	ERD10TLJ103	10k
R11	ERD10TLJ473	47k	R40	Not Used	
R12	ERD10TLJ683	68k	R41	ERD10TLJ472	4.7k
R13	ERD10TLJ473	47k	R42	Not Used	
R14	ERD10TLJ683	68k	R43	ERD10TLJ222	2.2k
R15	ERD10TLJ334	330k	R44	ERD25TJ335	3.3M
R16	ERD10TLJ473	47k	R45	Not Used	
R17	Not Used		R46	ERD10TLJ184	180k
R18	ERD10TLJ103	10k	R47	ERD10TLJ273	27k
R19	ERD10TLJ103	10k	R48	ERD10TLJ273	27k
R20	ERD10TLJ334	330k	R49	Not Used	
R21	ERD10TLJ102	1k	R50	Not Used	
R22	ERD10TLJ681	680	R51	Not Used	
R23	Not Used		R52	ERD10TLJ272	2.7k
R24	ERD10TLJ153	15k	R53	ERD10TLJ152	1.5k
R25	Not Used		R54	ERD10TLJ682	6.8k
R26	Not Used		R55	ERD10TLJ472	4.7k
R27	ERD10TLJ681	680	R56	ERD10TLJ472	4.7k
R28	ERD10TLJ473	47k	R57	Not Used	
R29	ERD10TLJ470	47	R58	ERD10TLJ684	680k

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
R59	Not Used		R87	ERD10TLJ102	1k
R60	ERD10TLJ103	10k	R88	ERD10TLJ103	10k
R61	ERD10TLJ104	100k $\Delta$	R89	ERD10TLJ682	6.8k
R62	ERD10TLJ102	1k	R90	ERD10TLJ472	4.7k
R63	ERD10TLJ563	56k	R91	ERD10TLJ473	4.7k
R64	ERD10TLJ683	68k	R92	Not Used	
R65	ERD10TLJ470	47	R93	ERD10TLJ103	10k
R66	ERD10TLJ104	100k	R94	ERD10TLJ683	68k
R67	Not Used		R95	ERD10TLJ223	22k
R70	Not Used		R96	ERD10TLJ821	820
R71	ERD10TLJ154	150k	R97	ERD10TLJ821	820
R72	ERD10TLJ103	10k	R98	ERD10TLJ151	150
R73	ERD10TLJ103	10k	R99	Not Used	
R74	Not Used		R104	Not Used	
R75	Not Used		R105	ERD10TLJ105	1M
R76	ERDS1TJ391	390	R106	ERD10TLJ563	56k
R77	ERD10TLJ473	47k	R107	ERD10TLJ184	180k
R78	Not Used		R108	Not Used	
R79	ERD10TLJ183	18k	R113	Not Used	
R80	PQRQM2VJ180	18	R114	ERD10TLJ100	10
R81	Not Used		R115	Not Used	
R83	Not Used		R116	Not Used	
R84	ERD10TLJ471	470	R117	ERD10TLJ393	39k
R85	Not Used		R118	ERD10TLJ680	68
R86	Not Used		R201	PQRD250TJ105	1M

## CAPACITORS

C1	ECQE2427KS	0.47 $\Delta$	C33	ECEA1HKS010	1
C2	ECKD2H681KB	680P $\Delta$	C34	Not Used	
C3	ECKD2H681KB	680P $\Delta$	C35	Not Used	
C4	ECFD1C104MD	0.1 $\Delta$	C36	ECEA1CKS470	47 S
C5	ECFD1C104MD	0.1	C37	ECEA1HKS470	0.47
C6	PQCBX1C103MY	0.01	C38	ECEA1CK101	100 S
C7	Not Used		C39	PQCBX1C103MY	0.01
C8	ECEA1AKS330	33	C40	Not Used	
C9	ECEA1HKS010	1	C41	PQCBX0J223MY	0.022
C10	ECUV1H681KB	680P	C42	Not Used	
C11	ECEA1CKS100	10	C43	ECEA1HKS0R1	0.1
C12	PQCBX1C103MY	0.01	C44	Not Used	
C13	ECUV1H471KB	470P	C46	Not Used	
C14	ECEA1HKS2R2	22	C47	PQCBX1C103MY	0.01
C15	ECUV1H471KB	470P	C48	Not Used	
C16	ECEA0JK221	220	C51	Not Used	
C17	ECEA1CKS470	47 S	C52	ECEA0JU332	3300
C18	Not Used		C56	ECFD1E223MD	0.022
C19	ECEA1HKS330	0.33	C57	ECEA1HKS3R3	3.3
C20	PQCBX1C103MY	0.01	C58	ECEA1EK470	47 S
C21	PQCBX1C103MY	0.01	C59	ECEA1CU221	220
C22	ECUV1H681KB	680P	C60	ECEA1HKS010	1
C23	ECEA0JKS220	22	C61	ECEA1HKS3R3	3.3
C24	PQCBX1C103MY	0.01	C62	ECEA1AU101	100 S
C25	ECEA0JKS101	100	C63	PQCBX1C103MY	0.01
C26	Not Used		C64	Not Used	
C27	ECEA0JK221	220	C69	Not Used	
C28	ECEA1HKS010	1	C70	PQCBX1C103MY	0.01
C29	ECEA1HKS010	1	C71	PQCBX1C103MY	0.01
C30	PQCBX1C103MY	0.01			
C31	Not Used				
C32	Not Used				